

CLAIMS

What is claimed is:

- 1 1. A method for characterizing a nucleic acid-protein interaction
2 comprising:
 - 3 (a) immobilizing a nucleic acid or a protein on a solid support;
 - 4 (b) contacting the nucleic acid and the protein under conditions which allow the
5 nucleic acid and the protein to interact; and
 - 6 (c) measuring the strength of the nucleic acid-protein interaction.
- 1 2. The method of claim 1 further comprising repeating steps (a) through (c)
2 one or more times.
- 1 3. The method of claim 2 wherein the nucleic acid, protein or both used in
2 repeated steps (a) through (c) are different from the respective nucleic acid, protein or both
3 used in the first iteration.
- 1 4. The method of claim 1 wherein the nucleic acid is selected from the
2 group consisting of ss RNA, ds RNA, ss DNA, ds DNA and PNA.
- 1 5. The method of claim 1 wherein the solid support is a gel pad.
- 1 6. The method of claim 1 wherein the strength of the nucleic acid-protein
2 interaction is measured through Tm or a change in Tm.
- 1 7. The method of claim 1 wherein the strength of the nucleic acid-protein
2 interaction is measured through fluorescence or a change in fluorescence.

1 8. The method of claim 1 wherein the nucleic acid sequence is selected
2 from the group consisting of a nucleic acid having a predetermined sequence and nucleic acid
3 not having a predetermined sequence.

1 9. The method of claim 1 wherein the protein is selected from the group of
2 proteins consisting of a predetermined protein and a protein which is not predetermined.

1 10. The method of claim 8 wherein the nucleic acid does not have a
2 predetermined sequence further comprising determining the sequence of the nucleic acid.

1 11. The method of claim 9 wherein the protein is not predetermined further
2 comprising determining the identity of the protein.

1 12. The method of claim 1 wherein the nucleic acid sequence is a nucleic
2 acid encoding a functional nucleic acid sequence.

1 13. The method of claim 12 wherein the functional nucleic acid sequence is a
2 promoter or gene.

1 14. The method of claim 1 wherein the protein modulates the activity or
2 expression of a gene or gene product.

1 15. A kit for characterizing nucleic acid-protein interactions comprising
2 instructions for carrying out the method of claim 1.

1 16. The kit of claim 15 further comprising one or more of a solid support,
2 buffer, dyes or disposable lab equipment.

1 17. A method for characterizing a protein-protein interaction comprising:
2 (a) immobilizing a protein on a solid support;
3 (b) contacting the protein with a second protein under conditions which allow
4 the proteins to interact; and
5 (c) measuring the strength of the protein-protein interaction.

1 18. The method of claim 17 further comprising repeating steps (a) through
2 (c) one or more times.

1 19. The method of claim 18 wherein the protein, second protein or both used
2 in repeated steps (a) through (c) are different from the respective protein, second protein or
3 both used in the first iteration.

1 20. The method of claim 17 wherein the solid support is a gel pad.

1 21. The method of claim 17 wherein the strength of the protein-protein
2 interaction is measured through fluorescence or a change in fluorescence.

1 22. A kit for characterizing protein-protein interactions comprising
2 instructions for carrying out the method of claim 17.

1 23. The kit of claim 22 further comprising one or more of a solid support,
2 buffer, dyes or disposable lab equipment.